HOMESTAKE
Grants Project

Homestake Mining Company of California

Thomas Wohlford
Closure Manager

15 August 2017

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PO Box 5469
Santa Fe, NM 87502-5469

RE: Request to Start Post-Closure Monitoring for the Western Portion of the North-Offsite Area

Dear Sirs:

Homestake Mining Company (HMC) is submitting this letter and attending report in response to a May 22, 2017 letter from the New Mexico Environment Department (NMED). In this letter, the NMED had a number of comments and requests for additional information. The response of which was due in 90 days by August 22, 2017. The NMED's May 22, 2017 letter stemmed from HMC's December 8, 2015 *Request to Being Post-Closure Monitoring of the Western Portion of the North-Offsite Area*. HMC respectfully requests that the regulatory agencies review the attached report which has information to support the start of post-closure monitoring in the western portion of the North-Offsite area. If this information satisfies the agencies, then HMC requests approval to begin post-closure monitoring of the western portion of the North-Offsite area.

Only the alluvial aquifer contained elevated concentrations in this area and this report defines the proposed post-closure monitoring for the western portion of the North-Offsite area. The report was developed to present information for the alluvial *and* San Andres aquifers for supporting the proposed post-closure monitoring.

The following are locations in the attending report which provide the information required to respond to the individual requests for information in the NMED's May 22, 2017 letter:

Request 1. Figure 3-1 has been updated to show all wells in the western portion of the North-Offsite area. None of these wells are being used by HMC except for monitoring. Some of the

San Andres wells are being used by others. Alluvial wells 936 and 994 are thought to be used by others as a supply well. Use of the well was therefore not added to Figure 3-1 because HMC does not have information on the present use of non-HMC wells.

Request 2. Figure 4-1 has been added to show the base of the alluvium in the western portion of the North Off-site area. The contours do not honor all data points but are drawn to convey our best estimate of the base of the alluvium. These elevations are based on driller logs that can be significantly off when selecting the base of the alluvium from drill cuttings and therefore the contours are drawn from all of the data in an area.

Request 3. The water level and saturated thickness for well 996 in Table 3-2 has been adjusted with the use of a water level that is representative of the alluvial aquifer in this area. The water level in the previous submittal is not representative of the water level in well 996.

Request 4. Appendix A presents the well logs for wells in the western portion of the North Off-site area. Tables 3-2, 4-1 and 5-1 present the well completion information for wells in this area. Appendices B and C give water level and water quality data for the wells in the western portion of the North Off-site area respectively. Table 3-1 list the wells proposed to be used in the post closure monitoring for the western portion of the North Off-site area.

Request 5. HMC does not have a log for wells 997 and 998 (see Appendix A for the remainder of the well logs in the western portion of the North Off-site area). Tables 3-2, 4-1 and 5-1 present the well completion information for wells 636, 637, 686, 907, 911, 936, 938, 997 and 998. HMC does not have water quality data for well 907 (see Appendices B and C for water level and water quality data for the remainder of the wells in the western portion of the North Off-site area). Data from these wells were used in this evaluation.

Request 6. Figures 4-3 through 4-6 present water level plots for alluvial wells in the western portion of the North Off-site area while Figure 5-3 presents a plot of the San Andres water level changes in this area. Water level from wells with limited data were not used because they would not be helpful in defining the water level changes with time.

Request 7. Figures 4-8 through 4-11 present uranium plots for alluvial wells in the western portion of the North Off-site area while Figure 5-5 presents a plot of the San Andres uranium time plot in this area. Figures 4-13 through 4-16 present sulfate plots for alluvial wells while Figure 5-7 presents a plot of the San Andres sulfate time plot. Figures 4-18 through 4-21 present TDS plots for alluvial wells while Figure 5-9 presents a plot of the San Andres TDS time plot. Figures 4-23 through 4-26 present chloride plots for alluvial wells while Figure 5-11 presents a plot of the San Andres chloride data. Time plots for selenium are presented in Figures 4-28 through 4-31 for alluvial wells while Figure 5-13 presents a plot of the San Andres selenium data. Time plots for molybdenum concentrations are presented in Figures 4-33 through 4-36 for the alluvial wells while plots for nitrate concentrations are given in Figures 4-38 through 4-41. Time plots for Ra-226+Ra-228, vanadium and Th-230 are presented in Figures 4-43 through 4-46, Figures 4-48 through 4-51 and Figures 4-53 through 4-56 respectively for the alluvial wells. Time plots for R-226+Ra-228, vanadium, Th-230 and molybdenum for the San Andres wells were not developed because these very small concentrations would not produce a useful time plot. Water quality from wells with limited data were not plotted because they would not be helpful in defining the water quality changes with time.

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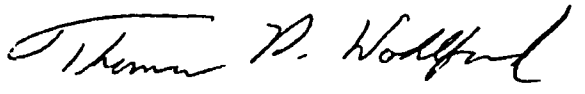
Request 8. Figure 4-2 presents the water-level elevations for alluvial aquifer in the western portion of the North Off-site area. Figure 5-1 presents the water -level elevation map for the San Andres aquifer.

Request 9. Figures 4-7, 4-12, 4-17, 4-22, 4-27, 4-32, 4-37, 4-42, 4-47 and 4-52 present the alluvial concentration maps for uranium, sulfate, TDS, chloride, selenium, molybdenum, nitrate, Ra-226+R-228, vanadium and Th-230 respectively for the western portion of the North Off-site area. The San Andres concentration maps for uranium, sulfate, TDS, chloride, selenium and nitrate are presented in Figures 5-4, 5-6, 5-8, 5-10, 5-12 and 5-14 respectively. Figure 5-16 present a map of the San Andres Ra-226+Ra-228, vanadium, Th-230 and molybdenum concentrations posted by the well location. Concentration contour maps for these four constituents would not be helpful with their very small levels.

Request 10. Figure 3-1 shows the seven proposed alluvial wells in green to be used in the post closure monitoring of the western portion of the North Off-site area. Five of these alluvial wells are located in the area of maximum extent of concentrations above the site standards (see light blue pattern on Figure 3-1) in the western portion of the North Off-site area. The site standards for uranium and nitrate were exceeded in wells 636 and 686 historically to the north of the blue pattern area but these higher values were caused by the Bluewater site and therefore the exceedance area was not extended to these wells. Two additional alluvial wells within or adjacent to the Section 33 irrigation were added to the post closure monitoring wells. Only uranium and nitrate concentrations have been exceeded in the alluvial aquifer. Slightly higher concentrations in the San Andres aquifer in the northern portion of the North Off-site area are not caused by the HMC seepage and therefore no San Andres post closure monitoring of this aquifer is needed. Table 3-1 lists the wells to be monitored during the post closure monitoring and give the proposed list of constituents to be monitored which are the alluvial site standards for the HMC Grants site.

Thank you for your time and attention on this matter. If you or anyone on your staff has any questions, please contact me at the Grants office at 505.287.4456, extension 34, or call me directly on my cell phone at 505.290.2187.

Respectfully,



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